

Amendments to the Claims:

Claims 1-6 (Cancelled)

Claim 7 (Currently amended): A system for supplying air and controlling the flow of air into and out of the chambers of a patient-supporting low air loss air mattress, the system comprising:

a controllable blower having an intake port and an exhaust port;

air supply lines leading to the chambers of an air mattress;

pressure sensors operatively connected to the air supply lines; and

~~means for~~ a three port, two position gate member selectively directing air from the blower exhaust port to the chambers of the air mattress or routing the flow of air from the air mattress into the blower intake port.

Claim 8 (Previously presented): The system as recited in Claim 7, wherein the air supply lines have electrically controlled valves for controlling the amount of air that can flow therethrough.

Claim 9 (Currently amended): The system as recited in claim 8, wherein the air supply lines have the pressure sensors interposed between the valves and the chambers of the air mattress for sensing the air pressure in the chambers of the air mattress.

Claim 10 (Previously presented): The system as recited in Claim 7, wherein the means for directing air comprises a multiple-position rotary valve.

Claim 11 (Currently amended): The system as recited in claim 10, wherein the rotary ~~valve~~ valve includes a housing defining an outlet port, an inlet port, and air mattress supply ports.

Claim 12 (Previously presented): The system as recited in claim 11, wherein the housing inlet port communicates with the blower exhaust port, the air mattress supply ports communicate with the air supply lines leading to the chambers of the mattress, and the housing outlet port communicates with the blower intake port.

Claim 13 (Previously presented): The system as recited in claim 10, wherein the rotary valve has a gate member rotatably received by the housing in a first or second position.

Claim 14 (Previously presented): The system as recited in claim 13, wherein the gate member has one or more ports able to align with the valve housing inlet port when the gate member rotates in the first position, thereby allowing the gate member to communicate with the valve housing inlet port and air mattress supply ports, the blower intake to communicate with the outside environment, and the blower exhaust with the air mattress supply ports.

Claim 15 (Previously presented): The system as recited in claim 10, wherein the gate member has one or more ports able to align with the valve housing outlet port when the gate member rotates in the second position, thereby allowing the gate member to communicate with the valve housing inlet port and the air mattress supply ports, the blower exhaust to communicate with the outside environment, and the blower intake with the air mattress supply ports.

Claim 16 (Previously presented): The system as recited in Claim 7, further comprising a programmable control unit connected to the blower, the pressure sensors, and the valves.

Claim 17 (Previously presented): The system as recited in claim 16, wherein the control unit receives pressure signals from the pressure sensors and transmits a signal to incrementally close the valve in the air supply line having an air pressure above the predetermined range of pressures.

Claim 18 (Currently amended): The system as recited in claim 17, wherein the control unit receives pressure signals from the pressure sensors and transmit a signal to incrementally open the valve in the air supply line having an air pressure below the predetermined range of pressures.

Claim 19 (Previously presented): The system as recited in claim 18, wherein the control unit is able to transmit a signal to incrementally increase the supply of electrical power to the blower motor to increase the blower output if pressure in an air supply line is below a selected range of pressures and the valve in that line is completely open.

Claim 20 (Currently amended): The system as recited in claim 19, the control unit is able to receive inputs for the height and weight of the patient, determine acceptable air mattress supply line back pressures corresponding to patient and mattress interface pressures given ~~inputs valves~~ input values for patient weight and height, whereby the values may be controlled to maintain patient and mattress interface pressures that are below pre-determined values.

Claim 21 (Currently amended): A method for inflating and deflating a patient support air mattress, the method comprising providing a blower producing air flow in pneumatic communication with the internal chamber of an air mattress, the blower including an inlet and an outlet; inflating the mattress by directing the flow of air to the mattress through a single inflation port of a valve in an inflation direction from the blower outlet; and deflating the mattress by directing the flow of air from the mattress through a single deflation port of a valve in a deflation direction to the blower inlet.

Claim 22 (Previously presented): The method according to claim 21 wherein directing the flow of air in a deflation direction comprises redirecting the flow of air with a multi-position valve.

Claim 23 (Currently amended): The method according to claim 22 wherein redirecting the flow of air with a multi-position valve comprises removing the blower outlet from pneumatic communication with the air mattress internal chamber and placing the blower ~~outlet~~ inlet in pneumatic communication with the air mattress internal chamber.

Claim 24 (Currently amended): The method according to claim 23 wherein directing the flow of air in an inflation direction comprises placing the blower outlet in pneumatic communication with the air mattress internal chamber, and directing the flow of air in a deflation direction comprises placing the blower inlet in pneumatic communication with the air mattress internal chamber for rapid ~~inflation~~ deflation.

Claim 25 (Currently amended): An inflatable patient support apparatus comprising:

an inflatable mattress including an internal chamber,
an air transmission device operable to provide air flow into and out of the internal chamber, and
a ~~multi-~~ three port valve controlling the air flow to inflate or deflate the mattress. ~~with the transmission device.~~

Claim 26 (Previously presented): The apparatus according to claim 25 and wherein the valve comprises a two-position rotary valve.

Claim 27 (Previously presented): The apparatus according to claim 26 wherein the air transmission device comprises a blower.

Claim 28 (Previously presented): The apparatus according to claim 27 wherein the blower comprises a single direction blower.

Claim 29 (Previously presented): The apparatus according to claim 25 further comprising a control unit, a plurality of sensors, and a plurality of pressure control valves, the mattress including a plurality of internal chambers, the pressure sensors providing pressure indication from the internal chambers to the control unit, and the control unit opening or closing the valves to change pressure inside the internal chambers.

Claim 30 (Previously presented): The apparatus according to claim 25 wherein the multi-port valve is manually operated.

Claim 31 (new): An inflatable patient support apparatus comprising:

an inflatable mattress including an internal chamber,
an air transmission device operable to provide air flow into and out of the internal chamber, and
a three port valve controlling the air flow to inflate or deflate the mattress with the transmission device.

Claim 32 (New): The apparatus according to claim 31 and wherein the valve comprises a two-position rotary valve.

Claim 33 (New): The apparatus according to claim 32 wherein the air transmission device comprises a blower.

Claim 34 (New): The apparatus according to claim 33 wherein the blower comprises a single direction blower.

Claim 35 (New): The apparatus according to claim 31 further comprising a control unit, a plurality of sensors, and a plurality of pressure control valves, the mattress including a plurality of internal chambers, the pressure sensors providing pressure indication from the internal chambers to the control unit, and the control unit opening or closing the valves to change pressure inside the internal chambers.

Claim 36 (New): The apparatus according to claim 31 wherein the multi-port valve is manually operated.

Claim 37 (New): A rapid inflation and venting air valve comprising a rotary element, an outer casing, an inner rotary body, a rotary cover, and a blower and being placed in a first lateral cover and a second lateral cover; characterized in that:

an inner side of the rotary element is extended with a driving shaft; the driving shaft passes through a predetermined portion of the first lateral cover to be connected to the outer casing;

the outer casing is a hollow tube and; a lateral side of the outer casing has an air inlet and a plurality of jointing tubes; one end of the outer casing is an opening portion; the opposite side with respect to the opening portion is a closing end; the closing end has a plurality of apertures and a through hole;

the inner rotary body has a size slightly smaller than the outer casing; a spacer is installed in a center of the inner rotary body; a first opening and a second opening are formed on one end portion of the inner rotary body; the first opening and the second opening are exactly at two sides

of the spacer; a lateral side of the inner rotary body is a shroud and a notch is formed on the shroud; a driving axial hole is formed on the end portion having the first and second openings;

the rotary cover is utilized to cover the inner rotary body; the rotary cover exactly covers the inner rotary body and then the two are assembled as one integral body; the shape of the rotary cover is exactly corresponding to the opening portion of the outer casing; the rotary cover has two cover openings; and

the blower has a wind transfer tube and a wind suction opening; a cover plate is used to cover one end of the blower having the wind suction opening; and a wind guide mask is installed aside the cover plate for guiding airflow.